

Finally, I think that this book would have benefited from the inclusion of a chapter on aspects of temporal and spatial scaling, given that this is a question that modellers are constantly addressing in order to maximize the value of process-based research in a wider context. In general, however, the book does meet most of its objectives and

represents a valuable post-graduate/researcher level reference source. In this regard it makes a timely contribution to this important subject area.

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GEOMORFOLOGIA DE ESPAÑA. M. Gutiérrez Elorza (ed.), Madrid, Editorial Rueda, 526 pp, 271 figs, 153 photos, 10 tables, 1994, ISBN 84-7207-075-1. [In Spanish.]

This is an extensive and detailed review of the structural and historical development of regional geomorphology in Spain. Indeed, very few countries could claim such an extensive modern coverage of their regional geomorphology. Its 15 chapters consist of 14 regional studies and an introductory chapter by Mateo Gutiérrez Elorza that gives an overview of the principal physiographic regions and the history of their definition. Gutiérrez gives us a brief but interesting history of the study of geomorphology in Spain, from Torrubia's *Natural History of Spain* (1754) and the work of the Irishman Guillermo Bowles (1775), which had the broader title *Introduction to the Natural History and Physical Geography of Spain* (surely one of the earliest 'physical geographies' in existence?), to the post-1970 era of international collaboration in applied and process studies and national collaboration between Departments of Geography and Geophysics and CSIC, the National Research Council.

The book is well illustrated with 271 figures, mainly maps, block diagrams and cross-sections, and 153 monochrome photographs. Each chapter is largely concerned with the evolutionary development of a regional landscape and its subregions, usually with a structural emphasis. Current processes are not covered. Chapters average about 30 pages, though the shortest, on the Catalan region, is only 16 pages and the longest, on the Pyrenees, covers nearly 70 pages. Somewhat unusually, there are no chapter numbers, but more importantly there is no index. This is perhaps not as

problematic as it might seem, since the strict regional approach generally requires little cross referencing between chapters.

A major strong point of the book is the exhaustive regional bibliographies associated with each chapter. The chapter on the Pyrenees contains about 350 references. There are about 300 references on the Duero basin, about 280 on the Ebro basin, and even the rather unusual chapter on the geomorphology of the deep sea areas contains about 250 references.

A score of authors contribute three chapters on the Hercynian massifs in the west of Spain; a chapter on the predominantly Palaeozoic and Mesozoic southern region, the Cordillera Betica, and the Balearic Islands; three on the great Tertiary depressions, the Ebro, Duero and Tajo; three on the Alpine fold mountains and cordillera with their Hercynian basement rocks in the north, the Cordillera Iberica south of the Ebro, the Pyrenees to the north, and the Vasco-Cantabrian mountains and the Catalan coastal system to the west and east respectively; and three chapters on the seas, the coasts and the Canary islands.

Overall, this book provides a well-presented and authoritative guide, which should be indispensable not only to specialists in Spanish geomorphology but also to those involved in taking student field trips and expeditions to Spain or the Spanish islands. A working knowledge of Spanish will obviously be an advantage, but there is nevertheless a lot that can be gleaned without this.

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